

WHAT IS CLAIMED IS:

- 1 1. A magnesium ammonium phosphate cement preparation comprising:
2 a powder mixture having molar quantities of the components calcium (Ca),
3 magnesium (Mg) and orthophosphate (P) in the mixture in the ranges $1 < \text{Ca/P} < 1.5$ and
4 $\text{Mg/P} < 0.5$; and
5 an ammonium salt.
- 1 2. The preparation according to claim 1, wherein the ammonium salt
2 comprises an aqueous solution having a pH in the range from 7 to 12.
- 1 3. The preparation according to claim 1, wherein the ammonium salt is
2 present in the powder mixture at molar quantity of ammonium (NH_4) less than 0.5.
- 1 4. The preparation according to claim 1, wherein the powder mixture
2 comprises α/β -tertiary calcium phosphate (α/β -TCP).
- 1 5. The preparation according to claim 4, wherein the powder mixture
2 further comprises $\text{MgHPO}_4 \cdot 3 \text{H}_2\text{O}$.
- 1 6. The preparation according to claim 5, wherein the powder mixture
2 further comprises $\text{Mg}_3(\text{PO}_4)_2$.
- 1 7. The preparation according to claim 1, wherein the powder mixture
2 comprises $(\text{NH}_4)_2\text{SO}_4$.
- 1 8. The preparation according to claim 1, wherein the powder mixture
2 further comprises KH_2PO_4 .
- 1 9. The preparation according to claim 1, wherein the powder mixture
2 further comprises Na_2HPO_4 .
- 1 10. The preparation according to claim 1, further comprising SrCO_3 .
- 1 11. The preparation according to claim 10, wherein the SrCO_3 is present in
2 the range of 0.01 to 10 wt. % based on the total weight of the preparation.
- 1 12. The preparation according to claim 10, wherein the SrCO_3 is present in
2 the range of 0.1 to 5 wt.% based on the total weight of the preparation.

- 1 13. The preparation according to claim 1, further comprising ZnO.
- 1 14. The preparation according to claim 1, wherein the powder mixture
2 further comprises $\text{Ca}_2\text{NaK}(\text{PO}_4)_2$ and/or CaKPO_4 .
- 1 15. The preparation according to claim 1, further comprising a fluoride.
- 1 16. The preparation according to claim 1, further comprising a
2 pharmaceutical and/or a bioactive active ingredient.
- 1 17. The preparation according to claim 16, wherein the pharmaceutical
2 and/or a bioactive active ingredient comprises a therapeutic dose of a component selected
3 from the group consisting of antibiotics, cytostatic agents, analgesics, disinfectants, growth
4 factors, proteins or elastin inhibitors.
- 1 18. A magnesium ammonium phosphate cement preparation comprising:
2 a powder mixture comprising α -TCP, β -TCP, $\text{MgHPO}_4 \cdot 3 \text{H}_2\text{O}$, KH_2PO_4 and
3 Na_2HPO_4 ; and
4 an ammonium salt.
- 1 19. The preparation according to claim 18, wherein the powder mixture
2 further comprises SrCO_3 .
- 1 20. The preparation according to claim 19, wherein the SrCO_3 is present in
2 a quantity of 0.01 to 10 wt.% based on the total weight of the preparation.
- 1 21. The preparation according to claim 18, further comprising ZnO.
- 1 22. The preparation according to claim 18, wherein the powder mixture
2 further comprises $\text{Ca}_2\text{NaK}(\text{PO}_4)_2$ and/or CaKPO_4 .
- 1 23. The preparation according to claim 18, further comprising a fluoride.
- 1 24. The preparation according to claim 18, further comprising a
2 pharmaceutical and/or a bioactive active ingredient.
- 1 25. The preparation according to claim 24, wherein the pharmaceutical
2 and/or a bioactive active ingredient comprises a therapeutic dose of a component selected

3 from the group consisting of antibiotics, cytostatic agents, analgesics, disinfectants, growth
4 factors, proteins or elastin inhibitors.

1 26. A magnesium ammonium phosphate cement preparation comprising:
2 a powder mixture comprising α -TCP, β -TCP, $(\text{NH}_4)_2\text{SO}_4$, KH_2PO_4 and
3 Na_2HPO_4 ; and
4 a magnesium salt.

1 27. The preparation according to claim 26, wherein the magnesium salt is
2 $\text{MgHPO}_4 \cdot 3 \text{H}_2\text{O}$.

1 28. The preparation according to claim 26, wherein the powder mixture
2 further comprises SrCO_3 .

1 29. The preparation according to claim 28, wherein the SrCO_3 is present at
2 0.01 to 10 wt.% based on the total weight of the preparation.

1 30. The preparation according to claims 26, further comprising ZnO .

1 31. The preparation according to claims 26, wherein the powder mixture
2 further comprises $\text{Ca}_2\text{NaK}(\text{PO}_4)_2$ and/or CaKPO_4 .

1 32. The preparation according to claim 26, further comprising a fluoride.

1 33. The preparation according to claim 26, further comprising a
2 pharmaceutical and/or a bioactive active ingredient.

1 34. The preparation according to claim 33, wherein the pharmaceutical
2 and/or a bioactive active ingredient comprises a therapeutic dose of a component selected
3 from the group consisting of antibiotics, cytostatic agents, analgesics, disinfectants, growth
4 factors, proteins or elastin inhibitors.

1 35. A magnesium ammonium phosphate cement preparation comprising:
2 a powder mixture comprising α -TCP, β -TCP, primary or secondary
3 ammonium phosphate, KH_2PO_4 and Na_2HPO_4 ; and
4 a magnesium salt.

- 1 36. The preparation according to claim 35, wherein the magnesium salt is
2 $\text{MgHPO}_4 \cdot 3 \text{H}_2\text{O}$.
- 1 37. The preparation according to claim 35, wherein the powder mixture
2 further comprises SrCO_3 .
- 1 38. The preparation according to claim 37, wherein the SrCO_3 is present at
2 0.01 to 10 wt.% based on the total weight of the preparation.
- 1 39. The preparation according to claim 35, further comprising ZnO .
- 1 40. The preparation according to claim 35, wherein the powder mixture
2 further comprises $\text{Ca}_2\text{NaK}(\text{PO}_4)_2$ and/or CaKPO_4 .
- 1 41. The preparation according to claim 35, further comprising a fluoride.
- 1 42. The preparation according to claim 35, further comprising a
2 pharmaceutical and/or a bioactive active ingredient.
- 1 43. The preparation according to claim 42, wherein the pharmaceutical
2 and/or a bioactive active ingredient comprises a therapeutic dose of a component selected
3 from the group consisting of antibiotics, cytostatic agents, analgesics, disinfectants, growth
4 factors, proteins or elastin inhibitors.